# CS 255 Business Requirements Document Template

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Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## System Components and Design

### Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* [DriverPass is looking to develop a system that enhances their existing business model. They currently provide driver tests and practice sessions for students aiming to obtain their driver's licenses from the DMV. The new system will enable DriverPass to expand their services by offering online reservations, scheduling, and payment options. Additionally, it will grant DriverPass employees access to user data and schedules, and facilitate the assignment of drivers to students.]

### System Background

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* [DriverPass is looking for a comprehensive system to streamline their operations i.e. session management, learning materials, and user management, and regulatory compliance. DriverPass has identified a market gap where many drivers fail their DMV skills test due to inadequate preparation. To address this, DriverPass offers enhanced practice tests and driver training. In doing so, the system will store user information, allow users to schedule tests and practice sessions, enable progress tracking and online payments, track employees, training cars, and user data. This cloud-based system will be accessible from any internet-connected device.]

### Objectives and Goals

*What should this system be able to do when it is completed? What measurable tasks need to be included in the system design to achieve this?*

* The system should be cloud-based and accessible via the web.
* Administrators should be able to display and disable different product packages.
* Administrators should receive notifications for new DMV information.
* Users and administrators should be able to create and schedule appointments with drivers.
* Users should be able to enter their personal information and contact details.
* Users should have the option to reset their passwords.
* Administrators should have the ability to manage and disable user accounts.

## Requirements

### Nonfunctional Requirements

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

#### Performance Requirements

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* The DriverPass system must be compatible with both PCs/Macs and smartphones. This requires a web app for browsers like Firefox or Chrome and a mobile app for smartphones.
* The system should support video streaming, a key part of DriverPass's business model. While user bandwidth affects stream quality, the system must handle multiple users streaming driver education videos simultaneously.
* Regular updates are essential, matching the update frequency of web browsers and mobile operating systems. For instance, if Google Chrome updates, the DriverPass web app should be tested, fixed if needed, and updated accordingly.

#### Platform Constraints

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* [If DriverPass is built for web browsers using HTML, it will work on any operating system with a web browser. The mobile app should support Android and iOS. For other mobile systems, users should use the web app until a dedicated app is made, based on market research.

To store user information for clients and administrators (including drivers), a database needs to be created and linked to DriverPass. Developers will need a backend tool like ASP.NET Core or Node.js. SQL will be used for database calls.]

#### Accuracy and Precision

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* Each user will receive security roles to specify their individual privileges.
* User information input will be sensitive to case.
* The system will alert all users with administrative roles if any page is accessed by someone without the required security role for that page.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* [As users will be entities created within the system and stored in the database, it will be feasible to add, remove, or modify users without altering the system code. If implemented correctly, the interface will ensure that the entire system does not require refactoring to update a single class. IT personnel will require administrator access to maintain the system effectively. They will have access to usernames and certain user information, with the capability to update specific user details. However, they will not be able to view the information they are modifying. For example, if a user wishes to update their payment methods, IT support can input the new payment information into the user's account without accessing the previous or new payment details once submitted to the system.]

#### Security

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* Use HTTPS for all external server connections.
* Users need a username/email and a strong password.
* After 5 failed login attempts, users must contact an admin to unlock their account.
* For password resets, users must contact an admin.

### Functional Requirements

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with “The system shall . . .” For example, one functional requirement might be, “The system shall validate user credentials when logging in.”*

* The system shall authenticate user credentials upon login.
* The system shall implement two-factor authentication for all users.
* The system shall monitor and record users' progress during testing.
* The system shall securely store user information in private accounts, including driver notes, special needs, driver photographs, address details, and payment information.
* The system shall facilitate the scheduling of driver tests and driving practice through one of three pre-defined packages.
* The system shall enable users to make payments online.
* The system shall maintain records of business employees.
* The system shall monitor the scheduling and usage of vehicles driven by employees.
* The system shall track and record user data and progress.

### User Interface

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* Users will interact with the interface through a web browser, allowing them to access the system from any device with internet connectivity.
* They will have the capability to view their personal information, which includes details such as their name, contact information, and driving schedule. This schedule will show upcoming driving appointments, lessons, or sessions.
* Users will be able to purchase various packages directly through the interface. These packages might include different types of driving lessons, bundles of multiple sessions, or special offers.
* Administrative users will have comprehensive access to the interface, enabling them to view and manage detailed package information, such as package descriptions, pricing, and availability. They will also be able to access user information, including personal details and purchase history, to assist with administrative tasks and customer support.

### Assumptions

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* Users will access the application via modern devices (smartphones or PCs) and updated web browsers.
* The programming language is yet to be decided.
* The color scheme and user settings (e.g., color-blind friendly, high-contrast) are still undetermined.
* The hosting for driver-test videos is not established. Hosting on DriverPass servers will use bandwidth and space, while third-party hosting (e.g., YouTube) may incur costs or show ads not aligned with DriverPass’s business model.

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* Administrators will have limited control over the package contents available for sale on the site. Their capabilities will be restricted to simply disabling the packages. They won't be able to modify, update, or manage the contents in any other way. This means they can't change descriptions, prices, or any other details related to the packages. Their role will be confined to enabling or disabling the availability of these packages for sale.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

